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EDWARD P. WARD
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EDITORIAL ASSISTANT

Vol. XII

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No. 19

Simplifying the Instrument Board

THE ordinary air speed indicator is accurate only at standard air density. When at high altitudes the venturi tube has quite different characteristics than when at ground level. To overcome this difficulty, many altimeters have a correction factor scale in addition to the altitude scale, and there has been at least one instrument produced which is intended for nothing else.

A French manufacturer has now produced an instrument that gives the true air speed at any altitude. This is done by having both an air speed indicator and an altimeter in the same case and using two needles. If so rugged as the usual forms of these instruments, this device should prove a big asset.

This development marks another point in the recent trend of reduction in the number of separate instruments in the pilot's cockpit. The various "dash-flying" combinations have already served to put five or three separate instruments behind one dial, or at least in one case. This line of progress will not only avoid the peril in navigating under difficult conditions, but will greatly reduce the apparent complexity of the airplane, and hence should be generally encouraged.

State vs. Federal Air Legislation

THE lack of federal air legislation and the ever expanding activities of civil aviation have brought about as a natural result an increasing number of State laws which provide for the regulation of civil flying. To date there are about a dozen States in the Union where the civil flyer is, technically at any rate, subject to State legislation. While the enforcement of these laws varies a good deal from one State to another, the fact remains that a growing number of aerial laws is being written upon the statute books, and that these laws do not as a rule follow any common set of standards.

That such a situation is full of threatening possibilities is obvious. If different requirements are to govern in each State the practice of civil aviation, the legitimate growth of the latter cannot but be seriously impaired by the confusion attendant upon the enforcement of conflicting air laws.

The Walworth-Bloks bill, which provides for federal regulation of civil aviation in interstate commerce, will give its full benefit, if it is passed by Congress, only if the States will actively cooperate with its provisions. It may be regretted that the bill does not cover the control of air navigation more fully, but it appears that considerations of constitutionality have caused several of its original sponsors to be defeated. As a result much of its effectiveness will depend upon the amount of cooperation the States will be willing to grant in this matter.

In this connection much interest attaches to the joint meeting of the sub-committees representing the American Air Association and the Commissioners on Uniform State Laws which was recently held in Washington. While no definite

action resulted from the meeting, the Walworth-Bloks bill was endorsed, and it was decided that no specific legislation be recommended to the States that would in any way conflict with the idea of absolutely uniform regulation of air navigation. In accordance with these views the broader draft of a proposed uniform State air law which had been prepared by Dr. G. C. Rogers, Dean of the Cornell Law School, was circulated. The discussion brought out the fact that uniformity was very strongly in favor of some such position. The combined suggestion was made among others that with Federal air legislation in force for interstate flying, States should require that pilots engaged in intrastate flying likewise secure a Federal license. Such a solution of the question of uniform air regulation seems to us by far the best, for it is simple and effective.

Accommodated Nomenclature

IT is generally admitted by those who have given the subject more than a passing thought that the nomenclature nomenclature which the Americans and the British share in common is not without flaws. Its greatest merit is undoubtedly that it represents a concerted effort toward uniformity.

There are a few exceptions to the rule, such as the British use of tail planes for horizontal stabilizers--both of which are equally clumsy and noncommittal--and the indifferent spelling of airplane and aeroplane. But on the whole the technical language used in aeronautical engineering, whether published in New York, London, or Sidney, hardly differs from one another.

Recently the British Air Ministry announced that it will henceforth use the term aeroplane to denote a heavier-than-air craft with fixed wings, driven mechanically, and not as hitherto in the more descriptive of a "fixed machine." Instead, aeroplanes will include "landplanes," seaplanes and amphibians, while seaplanes will include "float planes" and flying boats.

While we fully agree with the latter modifications, which merely clarify existing common usage, since "fixed airplane" has always implied a land plane, we feel much less sympathetic toward "landplanes." It seems a questionable improvement to attempt to displace the generally used airplane by that clumsy word. The objection that we used in English a phrase less corresponding to the German *Flugzeug* and the Italian *aeroplano*, is unconvincing to us, for we already have "flying machine"--a term which since the earliest days of aviation has been employed in that sense.

As the Nomenclature of Aeronautics of the National Advisory Committee for Aeronautics is now in process of correction and expansion, it will be interesting to see whether its coming edition will adopt the innovation of the British Air Ministry.

Ann. 12.

The detailed regulations will cover all classes of national and international character.

General Regulations, Grand Cup of the Tyrrhenian

Art. 1.

In order to promote the development of aeronautical construction of commercial character, the Ministry of War creates a trophy, called "Grand Cup of the Tyrrhenian" valued at Lire 50,000. This trophy will constitute an International Challenge for airplanes (plus C) and will be contested for in accordance with all the conditions already specified for the Grand Cup of Italy.

The following prizes are to be awarded annually: 1st prize, Lire 150,000; and 2nd prize, Lire 50,000.

Ann. 2.

The circuit of 3000 km. over which the trophy will be contested, must be indicated in general waters and on the open sea, and it must at least include one point of the west coast of Italy, and at least one point of the two major islands (Sicily and Sardinia).

Art. 3.

As it has already been stated for the Grand Cup of Italy, the competing nations, before starting must undergo: (a) a water tightness test of the floats, and (b) a test of seaworthiness, the conditions of which will be specified in the detailed regulations.

Art. 4.

All other provisions governing this competition will be dictated with the General Regulations for the Grand Cup of Italy.

General Regulations, Angelo Riboldi Grand Prize

Art. 1.

A race for five balloons is to be held in the year 1925, in honor of the memory of Angelo Riboldi, the great aeronaut, whose name it will perpetuate as "Angelo Riboldi Grand Prize."

Art. 2.

The race will have an international character. It will be a balloon race, but if the atmospheric conditions warrant it the race may be changed to a direction contest. The Grand Committee will determine the nature of the contest with a non-appellable decision before the start.

Art. 3.

All the balloons of the second and third classes, General Regulations of the International Aeronautical Federation, may enter in the race.

Art. 4.

The following prizes will be awarded at the race: First prize, Lire 15,000; second prize, Lire 10,000; third prize, Lire 5,000.

Art. 5.

The race will take place between May 15 and Sept. 15. The detailed regulations will be drawn up by the Aero Club of Italy, which will register them public not later than Feb. 25, 1925.

Art. 6.

All the Federations and Aero Clubs associated with the International Aeronautical Federation may compete in the race.

Each Federation and Club may enter three pilots, appearing at the same time a substitute pilot for each one entered.

The applications must be forwarded to the Aero Club of Italy not later than April 15, and must be accompanied by Lire 150 for each entry.

Lire 150 will be reimbursed for each balloon that will take the start.

Art. 7.

The gas will be furnished by the Ministry of War (Superior Command of Aeronautics) at cost price.

All the balloons must be inflated with gas having the same weight (H).

Art. 8.

The Military Administration does not assume any responsibility other than that of paying the prizes to the competitors who have been judged winners by the Jury.

The said Administration will assume complete of all disputes that may arise in regard to the adjudication of the prizes, and will not assume for said adjudication any responsibility. Neither will the Administration assume any responsibility whatever for the damages that may be caused to the balloons or to third parties in connection with the race which is subject to the present regulations.

The detailed regulations will cover all classes of balloons, national and international character. Two experts appointed by the Ministry of War will sit on the Jury.

General Regulations, Parachute Contest

Art. 1.

In order to promote the use of parachutes, the Ministry of War will hold in the year 1922 a parachute contest (plus a flying airplane, with a prize of Lire 50,000 divided as follows: First prize, Lire 30,000; second prize, Lire 15,000; third prize, Lire 5,000).

The contest will have an international character and will take place in Italy. It will consist of a parachute jump from a flying airplane at an altitude of not more than 2000 m. (12,000 ft.) over the field of competition.

The prizes will be awarded to the competitor who reaches the ground without accident the fastest in a predetermined point.

Art. 2.

The detailed regulations of the race will be drawn up and made public by the Aero Club of Italy not later than six months before the first established for the race.

Art. 3.

The competitors must participate in the race with airplanes of their own.

Art. 4.

The competitors must be entered in the race by the National Federation to which they belong, in case their native country has no Federation represented in the F.A.I., then they may enter through another Federation.

Each Federation may enroll three competitors. Each competitor must be accompanied by the sum of Lire 100 of which Lire 50 will be refunded when the competing airplane has taken off in the race.

Art. 5.

The Military Administration does not assume any responsibility other than that of paying the prizes in the competition who has been declared winners by the Jury. The said Administration will assume outside of all disputes that may eventually arise in regard to the adjudication of the prizes, and it will not assume for said adjudication any responsibility. Neither will the Administration assume any responsibility whatever for the damages that may be caused to the parachutes, or to third parties, in connection with the race which is subject to the present regulations.

Art. 6.

The detailed Regulations will cover all classes of national and international character. Two experts appointed by the Ministry of War will sit on the Jury.

East Airways to Start Operations

East Airways, Inc., with office at 1425 Fidelity Building, New Orleans, which has been organized to enter the field of commercial aerial transport has the following officers: P. K. Kester, president and general manager; Conway W. Gaskin, vice president; C. Deane Aime, secretary; John B. L. Yost, treasurer; Mabel, Emily, Howell & Yost, attorneys.

For the present the company will operate services exclusively to airplanes. The first of these, an Aeromarine HCH, on passenger open boat, will start this week on a field about 100 miles southeast of New Orleans, to St. Francis, La. New Orleans, thence up the Mississippi River to St. Louis, along the Ohio to Pittsburgh, thence to Baltimore via the Great Lakes and the Hudson River to New York. On the first stop, which will be piloted by P. Kester Kester, will call at towns and cities along the route to carry passengers for short pleasure flights at a reasonable fare.

The Dugit Altimeter and Air Speed Indicator

Instruments Based on Application of Archimedes' Spiral Give Increased Precision and a Uniform Sensitiveness

By J. H. Biskely

The greater part of industrial motion gives the reading of the member length by the angular displacement of a needle moving in front of a dial. If the quantity to be measured depends upon two variables, its reading is arrived at by the employment of two needles whose angular displacements are respectively a function of each variable, the point of intersection upon appropriate curves giving the value required. The principal objection to this method is its lack of precision. The dial is moved along, the differing sensitiveness at the two extremities of the scale.

Principle of the Archimedes' Spiral

About a year ago, M.M. Baskin and Dugit presented at the meeting of the French Academy of Sciences two communications upon a new type of scales of their invention.

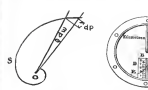


FIG. 1

FIG. 2

FIG. 3

which have been found to have a constant sensitiveness and a precision of reading which is not common in industrial scales of this kind. Several applications of this principle have been made for different classes of industrial use.

It is always possible to replace the circular graduations of these applications by a rectilinear graduation, in which the distance is proportional to the area. If we consider a curve S (Fig. 1), turning around its pole O , and if it is required that any variation of the length of the radius vector OP correspond to an angular displacement ϕ , so that the relation of these two quantities be constant, we shall have

$$\phi = k \cdot l \quad \text{the law of correspondance being}$$

or

$$\phi = k \cdot l + c \quad \text{constant}$$

If, therefore, an Archimedes' spiral is turned around its pole, it will not its radius vector is points equivalent for equal angular displacements. And reciprocally, if a straight line is turned around the pole, it will not an Archimedes' spiral in the same plane, its points equivalent for equal angular displacements.

Applying the Principle to Altimeters

An application of this principle has been made to altimeters for airplanes. Altimeters with circular graduation show a considerable variation from one end of the scale to the other. The same meter therefore can not be made to serve for both high and low altitudes without being so large as to be inconvenient. The dial must also be movable, to permit an initial

regulation to correct the instrument for local barometric pressure. The readings are then liable to be inaccurate from the fact that, at equal altitudes and at different barometric pressures, there is no longer absolute correspondence between the law of displacement of the needle and that which has served to graduate the instrument. The use of a needle on an Archimedes' spiral gives readings on a rectilinear scale with equally spaced divisions, which is easily adjusted for local corrections.

The dial of this instrument is shown in Fig. 2. In front of a scale graduated in kilometers appears an Archimedes' spiral S , which by its intersection with the scale gives the reading in kilometers. A second scale D gives the value of the barometer by its intersection with the spiral S , which makes one turn each time that S has advanced by one division.



The adjustment of scales A and D is made by means of a turned lead C .

A number of applications of this principle have been made for many of our variable, such as voltmeters, wattmeters, manometers, etc.

Errors in Instruments

Instruments for the measurement of two variables have not been very satisfactory on account of one of these lack of precision. These generally have a dial over which move two needles, whose angular displacements are respectively a function of each variable. Their point of intersection must be found on a group of curves representing, in bipolar coordinates, the factors to be measured. Errors of parallel, correct determination of the point of intersection at certain angles, the distribution of the curves on a small part of a dial of limited dimensions, have considerably the precision of the readings. If curved needles are used, and they are made to turn around concentric axes, they can be given a rotation of 360 deg. in the same plane, and consequently the curves representing the whole range of the dial, instead of only that part between the two axes of rotation. The reading is thus much more easy and precise. Among the instruments built on this principle is an air speed indicator for airplanes, which makes use of a Venturi device and a barometer.

If V designates the speed of displacement of the air in the Venturi, if P is the density of the air, P_0 the atmospheric pressure, and P_1 the pressure at the throat of the Venturi, then these quantities

below can be expressed by the formula: $P_s - P_\infty = \rho V^2$, where P_s is a sufficient depending upon the velocity.

Fig 3 represents the draft of this instrument. The curved nozzle is displaced proportionally to the variations of barometric pressure, it is controlled by the barometer. The nozzle is moved by a micrometer screw, which is at the throat of the Venturi; its displacements, which are proportional to the product V^2 , indicate the speed of the airplane at zero altitude, without making correction for density. The variations of the wind velocity cause a group of curves, obtained by calculations at variations of the density in function of the atmospheric pressure. The instrument therefore shows with sufficient precision the speed of the airplane in relation to the wind.

To be absolutely exact, it is necessary to take account also of the variations of the density of the air in function of the

temperature; a model of the instrument has been made, which is a relay thermometer and also use of this model is to be taken into account this supplementary variable.

By the use of the curved nozzle there has also been designed a "barometer" for the purpose of indicating to the pilot whether the pressure at the throat of the air is the weight of fuel consumed at a given time is good. The weight of air depends upon its density, therefore upon the actual pressure P_s , it is the weight of the fuel consumed in the pressure $P_s - P_\infty$, in the neighborhood of the nozzle. The instrument rendered in the preceding indication at each instant P_s .

The value of the refraction n , and so permits the adjustment of the depression $P_s - P_\infty$, therefore the carburetor.

— Translated from *Le Figaro* in the

A Letter

Editor, AVIATION —

I have read with interest your article about Boeing Flight and Boeing Aircraft in the Feb. 13th issue of your magazine. As I took interest part in the preparations and the management of the Bell Boeing Competition and was in the Rhine, which took place, I beg to correct certain apparent discrepancies in your article.

The machine which was awarded the highest amount of money, was not the Rhine, but the Rhine-Rhine glider. It was Mark 21408, comprising the first glider in the industry, raised, was second and third prize, and received the Krefeld prize for the best design. The Rhine-Rhine was built by Mark 21409 and 21410.

The industry center, founded by the Association of German Aircraft Manufacturers, had the name "Council of the highest flying tactics." However, it required besides a low glider such as special performance, which could be made only by gliders of superior construction. A complete circle of 360 deg. had to be flown. Whereas on the Rhine-Rhine glider completed over two circles in the same flight and had nevertheless a better gliding angle, measured from start to landing point, than the next competitor, who made one circle only.

The Rhine-Rhine glider had no elevator but it had a fixed stabilizer, and the whole was held by connecting rods. The wings were not warped. This design gave a very rapid control to the pilot, but it has the disadvantage that at high speed the airplane becomes unstable, and at that point it was for this reason that the technical commission, consisting of Dr. Ing. Prof. Adolph, Dr. Ing. Bloch, Karlsruher, and myself, hesitated before allowing the starting of this glider. Moreover, I have also seen photographs from which it can be seen that the glider was not stable.

The machine in which Lanchester was killed did not "ride ship as a hawk" it was a wobbly, unstable, model of a poor flying machine. It had a very high wing, and it was not a glider, as it was not a glider. After a very remarkable flight, in which the pilot passed about 200 ft. of altitude, the wing folded and broke. I feel fairly familiar with this case because the above mentioned technical commission was charged with the investigation of the causes of the accident.

The Rhine-Rhine glider, Fig. 1, has not been in the Rhine. It has made some short jumps only in a few cases, near Berlin.

HENRY MARSHALL

New Stabilizer to be Tested

One of the 2512 training planes of Marine Field, Mather, Calif., has been turned over to the Army Mail Service for the purpose of making experimental flights to test the Clamshell Stabilizer, a new device which the inventor, who has been working on it for many months, claims will hold the ship irregularly instantaneously, regardless of conditions. That part of the stabilizer controlling the ship laterally has not been patented.

Simplified Theory of the Magneto

N. A. C. A. Report No. 123

This paper contains part of the results of research made recently, being made by the National Advisory Committee for Aeronautics at the Bureau of Standards, and describes a type of circuit which has been found useful for representing the action of the magneto in a magneto. While this simplified theory is not a rigorous derivation, it is a useful one, and a basis for deriving definite mathematical formulas for actual voltages and similar quantities, it has been tested experimentally, it corresponds quite closely to its performance, with the help of the mathematical relations, it can be used in the paper formulas are given for the voltage induced in the secondary under various conditions of operation, and a number of numerical examples are given showing the application of the equations here simply presented.

A copy of report No. 123 may be obtained upon request from the National Advisory Committee for Aeronautics, Washington, D. C.

Our Cover Illustration

Our cover illustration shows the "Red-Indian" Dredge commercial demonstrator (Curtiss G-15) when it was carrying passengers from the surface of the French St. Lawrence river in front of the company's plant, recently. The pilot was George St. Paul, now president of the company. Some drawings right to include today's drop were constructed, greatly hampering the take-off and landing, but the flying was accomplished without serious difficulty.

The Dredge was built by the company in company with and by G. A. Gossard, the resident and representative of the plant and carrying the full material load with one passenger and four heavy fuel, the machine climbed 5000 ft. in 25 min. with an actual climb rate of 150 ft. per minute. Later in the afternoon it was put over a measured mile laid out upon the ice, and in a series of eight runs with and against a cross wind, showed an average speed of 88 m.p.h. with a maximum of 95 m.p.h. on the first two trials. So far as it has been the climb and high speed established are points, it seems of something new before approached with the G-15 engine.

The Third Rhon Meeting

The third German sailing flight competition, which will be held in August near the Rhine-Rhine, will take the first time when the restrictions of these meetings make a distinction between sailing and gliding aircraft. According to our contemporary *Fliegerzeitung*, only those aircraft will be considered as sailing aircraft which are equipped with an average wing speed (twice of downwind) of 18 ft. per sec.

This distinction between sailing and gliding was adopted in order to afford the latter an opportunity to give prizes, and encourage the development of pure gliders as well as sailers.

"Who's Who in American Aeronautics"

(Copyright, 1932, by the Aviation, Night Co., Inc.)

The biographical sketches of men who are prominent in American Aeronautics are printed periodically in AVIATION. The first issue will be shortly published in a more durable form, and several changes will be published seasonally to take care of the frequent changes in status of Army and Navy officers, and such other changes as may occur. As errors and omissions are liable to occur in a compilation of this character, interested parties are requested to notify "Who's Who" Editor of the necessary corrections so the record may be kept up to date.

Victor H. Dill

1911, 1913, 1915, 1917, 1919, 1921, 1923, 1925, 1927, 1929, 1931, 1933, 1935, 1937, 1939, 1941, 1943, 1945, 1947, 1949, 1951, 1953, 1955, 1957, 1959, 1961, 1963, 1965, 1967, 1969, 1971, 1973, 1975, 1977, 1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2021, 2023, 2025, 2027, 2029, 2031, 2033, 2035, 2037, 2039, 2041, 2043, 2045, 2047, 2049, 2051, 2053, 2055, 2057, 2059, 2061, 2063, 2065, 2067, 2069, 2071, 2073, 2075, 2077, 2079, 2081, 2083, 2085, 2087, 2089, 2091, 2093, 2095, 2097, 2099, 2101, 2103, 2105, 2107, 2109, 2111, 2113, 2115, 2117, 2119, 2121, 2123, 2125, 2127, 2129, 2131, 2133, 2135, 2137, 2139, 2141, 2143, 2145, 2147, 2149, 2151, 2153, 2155, 2157, 2159, 2161, 2163, 2165, 2167, 2169, 2171, 2173, 2175, 2177, 2179, 2181, 2183, 2185, 2187, 2189, 2191, 2193, 2195, 2197, 2199, 2201, 2203, 2205, 2207, 2209, 2211, 2213, 2215, 2217, 2219, 2221, 2223, 2225, 2227, 2229, 2231, 2233, 2235, 2237, 2239, 2241, 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Air Service Wants Flying Cadets

Young men who are interested in aviation will be attracted by the announcement that examinations are now being held at various Air Service stations for the purpose of securing eligibles for appointment as flying cadets. The following are eligible for this appointment:

- Entered men of the Regular Army.
- Candidates must be, at time of application:
 - Unmarried male citizens of the United States.
 - Between the ages of 20 and 27 years.
 - High School graduates, or possess the equivalent of a high school education.
 - Of excellent character.
 - Of sound physical and of excellent health.
- The same men of flying cadets in duty as cadets, which includes entire pay for five years. The tuition allowance will not exceed \$1.00 per day; the other allowances, such as clothing, equipment, etc., are those of a private, first class, Air Service.

Applicants from civil life will be required to pay all expenses incident to their appointment before the examination board for examination, and no claim for reimbursement of expenses incurred prior to enrollment will be considered.

The term of enlistment is three years. As the course, due to unforeseen conditions, may extend beyond one year, flying cadets are entitled for three years, but will be discharged upon completion or failure to complete the prescribed course, and will not be required to serve the unexpired portion of their enlistment period.

Flying cadets who successfully complete the prescribed course of training will be commissioned Second Lieutenants in the Air Service Officers' Reserve Corps (inactive status) and, upon discharge, receive such travel pay and other allowances as are given other enlisted men when discharged from the service.

Examining boards are now located at the following stations: Mitchell Field, Long Island, N. Y.; Ellington Field, Houston, Tex.; Bolling Field, Washington, D. C.; Grady Field, San Francisco, Calif.; Langley Field, Hampton, Va.; Maxwell Field, Huntsville, Calif.; Carlstrom Field, Arcadia, Fla.; Moffett Field, Sausalito, Calif.; McClellan Field, Dayton, Ohio; Keesler Field, Arcadia, Miss.; Grissom Field, Kankakee, Ill.; Phelps

Field, Hamlet, P. I.; Scott Field, Jacksonville, Fla.; Breckinridge Field, Lake Field, E. I.; Post Field, Fort Sill, Okla.; Persimmon Forest Depot, Okmulgee, Okla.; Kelly Field, San Antonio, Tex.; and Montgomery Air Intermediate Depot, Montgomery, Ala.

The next exam for the training of cadets in heavier machines (airplanes) is scheduled to commence about July 1, 1932 and the next class for the training of cadets in lighter machines (biplanes and aerobics) is scheduled to commence about Sept. 25, 1932.

Due to the reduced strength of the Army, the number of appointments in this grade will be limited, but it is expected that it will be possible to appoint about 350 for the coming class. Applicants should be eligible for this appointment, communicate with the Office of the Chief of Air Service, and application blanks and other pertinent information in regard to this training will be promptly furnished.

Kansas City News

The Flying Club of Kansas City advises that a proposed ordinance for the city government authorizes the making of an aerial map of Kansas City, Mo. and appropriate \$15,000 for that purpose.

Under the direction of the Flying Club of Kansas City, and with the entire municipal government, the Chamber of Commerce and other civic bodies, the field at Mitchell Field, has been made a permanent public field. Recreation, when circumstances and weather are favorable, the field provides and facilities. It is believed that by the end of this month eight or ten airplanes will be landed permanently at the field. An organization being known as the Flying Club of Kansas City is formed of citizens and allowed to operate.

Virtually everybody in Kansas City, which, including the suburbs, has about 500,000 population, is well-known and the project to make Kansas City, Mo. the hub of commercial air transport. Those desirous to communicate with the Flying Club of Kansas City should address: May Howard P. Webb, president, or S. W. Wyatt, secretary, 1221 Grand Avenue, Kansas City, Mo.

THE CONTEST COMMITTEE of the AERO CLUB OF AMERICA

Requests all owners (individuals or companies) of aircraft in the United States to register in order that the Committee may

- Send, gratis, the Aero Club's Contest Rules for 1932, and notices of proposed aviation meets.
- Assess local Clubs or organizing committees best adapted to the types of airplanes in their locality.
- Have a record of airplanes and pilots available throughout the country in times of emergency.



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Air Service News

Kelly Field Activities—Test flying and OAX instruction has been carried out by the 1st Squadron recently, although other cadets' periods have been held. New cadets are being installed in several shops, which are also being repaired while out of commission.

Officers of the 2nd Group (Buckhampton) may be given an opportunity in the near future to get away from the steady duty of OX (D.V.). Effort is being made to secure a few more, but plans to visit new pilots in the Group may be postponed on all of these things.

Lieut. Col. John H. Edwards, A.S., assumed command of Kelly Field on Feb. 1st, relieving Maj. John S. Reynolds, A.S., who has been appointed Wing Operations Officer. Colonel Howard comes to Kelly Field from Fort Bell, where he recently completed the course of training for observation pilots.

For Class for Flight Surgeons at Mitchell Field—A new course for Flight Surgeons opened at the Medical Research Laboratory, Mitchell Field, L. I., New York, on Feb. 1, 1932. The student personnel, consisting of five medical officers from the Army and five from the Navy, are as follows: Capt. Eamon Fisher, Joseph W. Sherrill, William D. Middlebrooke, Frank C. Yoon and Leonard F. Walsh of the U. S. Army, and Lieut. John P. Spaulding, Victor B. Armstrong, Capt. Robertson, Page C. Woodhington and Louis Johnson of the U. S. Navy.

This is the first class at the School for Flight Surgeons in which the students are sent to learn by the method of the medical staff in the Navy to the Navy to the Navy of War. The course of instruction extends over a period of three months.

44th Reserve Squadron—The 44th Reserve Squadron, stationed at New York, Calif., have just received a complete overhaul, sent to them by the 1st Squadron, 2nd Group, Kelly Field, and with Lieut. Robert E. Sells, Air Service, as instructor, members of this organization received their first actual instruction in their work at the Technical Flying School at San Jose.

It was recognized at the meeting that 150 members, of which seventeen are officers have now been signed for the squadron, and that others have specified their intention of becoming members. Officers of the squadron are now endeavoring to locate a suitable flying field for their headquarters, and when one is found the members will meet there each week instead of at the high school.

Private Cadets Commissioned as Reserve Corps—Candidates have arrived at Walter Field, M.D., Calif., and will have been issued receiving the discharge of members of the 1st class of cadets. These men are being discharged to accept commissions in the Officers' Reserve Corps. All express a desire to continue in the service as cadets or as officers, but no provision has been made to accept the service of newly enlisted flying field for their headquarters, and when one is found the members will meet there each week instead of at the high school.

This class of cadets made the finest five-point possible through the summer of 1931, the patrol covering the States of Oregon, Washington and California. The work they accomplished speaks for itself. These pilots have had approximately 200 flying hours in the air, and have developed into extremely efficient pilots.

Prudent Pilots at Carlstrom Field—The new class of officers and cadets have recently reported at Carlstrom Field for pilot training. The officers class will include the first and only about a dozen have reported to date, while some 75 cadets have reported. About 25 percent of the cadets are from the military personnel of the Air Service and 75 percent from civil life. This will probably be the last class to graduate from this station, due to the expanded working of the school to Kelly Field.

Notices to Aviators

Issued by Hydrographic Office, U. S. Navy

Obituary

Obituary—Kingfield Landing Field no longer available for landing of airplanes—Information has been received from the Officers' Chamber of Commerce, through the aid of the Director of Air Service, Washington, D. C., that the Kingfield Landing Field, Ottawa, Ill., is no longer available for landing purposes on account of the construction of a coal pier for foot-land and also the building of the field. We are informed that better landing places are available on the western side and at other places adjacent to the city, but no information concerning such facilities is available. (N. M. S. 1932.)

Ships Inland

Navigation—Ship—President—Landing for airplanes—The commanding officer, United States Naval Air Station, Rockaway Beach, Long Island, reports that a landing for airplanes may be found at Providence, R. I., in depths of 35 to 40 ft., and bottom, with good landing facilities, sea and tide of 4 to 6 ft.

Facilities and supplies of all kinds are available. Note—From Oyster Bay to Providence is about 120 miles, course, Oyster Bay to Providence, Long Island Sound 72°, then to Reef Light Light in Providence 350°, (N. A. 16, 1931.)

Formosa

Washington—Landing field—A permanent, unimproved landing field has been established at Washington, Va. This field is located just north of the first bend in the highway after it leaves Washington. The field is marked with a white circle. The long axis of the field is east-west, but approach from the east, north or west. There are high trees on the south side and a small spring government in the northeast corner.

For further information address Mr. M. S. Bode, Chamber of Commerce, Washington, Va. (N. A. 18, 1931.)

Notes

Flying weather forecast by radio extended—Arrangements have been made for the extension by the Weather Bureau of a flying weather forecast for some 1 to 5, inclusive, days the period brought to close of the afternoon day, at the coastal city from the usual radio station at Arlington, at 10 p.m. daily, commencing Jan. 15, 1932.

The form of the forecast and the areas covered will be the same as that included in the morning's weather broadcast from Arlington. (N. A. 2, 1932.)

Coming Aeronautical Events

AMERICAN

Apr. 20—Spring Show and Opening Meet, Curtis Field, Houston, L. I.

May—National Air Races, Dayton, Ohio.

May 4—Darnall Air Derby, Darnall, Okla. (Circuit)

May 10—Darnall Air Derby, Darnall, Okla. (Circuit)

May 17—Darnall Air Derby, Darnall, Okla. (Circuit)

May 24—Darnall Air Derby, Darnall, Okla. (Circuit)

May 31—First Annual International Championship Meet. (No preparation.)

FOREIGN

Aug. 1—Cape Jacques Schneider (European speed race) Italy, probably Naples.

Aug. 4—Gordon Bennett Balloon Race, Geneva, Switzerland.

Aug. 6-10—Flying and Gliding Competition, Clermont Ferrand, France.

Sept. 22—Congo River Race, Congo River, Congo.

Sept. 22—Congo River Race, Congo River, Congo.

American elimination trials, if required, to be held about Aug. 20, at Mitchell Field, L. I.

Aeronautical Briefs

Curtiss Airplanes in Argentina.—A report received from the Curtiss Aeroplane Export Corp., of New York City, covering operations in Argentina, states that during the year 1921, Curtiss machines, of which there are about twenty-six or thirty in operation, carried a total of 5785 passengers and covered 316,725 kilometers (which is roughly 195,000 miles). Not the slightest accident occurred, excepting one broken landing gear and propeller on account of a forced landing in a thick fog. A total of twenty-one civilian students were trained at the Curtiss Field, and Curtiss machines and motors flew a total of 2434 hr. British, French and Italians have airmen and schools of their own in Argentina, and the Curtiss people flew more hours, trained more men and covered more distance than all of them combined.

Aircraft and Prohibition.—Eleven airplanes, operating as a Prohibition enforcement squadron, seized the British schooner *Annabella* at the point of machine guns off the coast forty miles south of Miami on Feb. 20. A cargo of 11,500 case of whiskey worth \$3,000,000 was confiscated and the crew of twenty-one men were taken into custody.

Each of the airplanes is equipped with a machine gun and with wireless apparatus employing a wave code other instruments cannot interpret, according to a pilot of one of the planes.

Airships in Australia.—The British Imperial Government will be asked to extend the period during which certain airships now in its possession will be made available for the establishment of an experimental air service between Australia and England, in accordance with a resolution adopted by the Australian Parliament. Prime Minister Hughes explained that the British Government had a fleet of airships which it was willing to place at the disposal of the dominions, the latter having agreed to cooperate in a scheme which would enable arial communication to be maintained between various parts of the Empire.

Brennan Helicopter Lifts Off.—Lonis Brennan's experimental helicopter completed its first actual successful test at the Farnborough airdrome on Feb. 9. Rising vertically from the ground and hovering in midair for some minutes, the helicopter landed lightly almost on the identical spot from which it rose.

The machine, weighing more than a ton, carrying a pilot and 250 lb. of excess weight was sent up secretly in a gyroscopic test.

Studying Roma Accident.—At the request of Maj. Gen. Mason M. Patrick, Chief of Air Service, Edward Schildhauer, a consulting engineer specializing in lighter-than-air craft, and Dr. Bleistein, a representative of the Schuette-Lanz Airship Co. of Germany, have gone to Langley Field to make a special study of the destruction of the Army airship Roma.

Shanghai, China, Organizes Air Club.—Some residents at Shanghai have organized an Air Club to discuss technical subjects in Aviation. The aim of the club is to develop air industries and stimulate flying exhibitions and aircraft experiments in Shanghai. It is reported that the club intends to join the International Aeronautical Federation.

Border Incident Adjusted.—W. B. Atwell, American commercial aviator, who was held by Mexican officials for twenty-four hours after he had made a forced landing fifteen miles south of Juarez, Mexico, recently, has received his plane following a conference between American Vice Consul Harper and the Mexican authorities. Atwell said he landed in Mexico because the flat country there made it safer than on the American side.

Where to Fly

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